
CREDIT RISK ASSESSMENT BY RATING AGENCIES: STANDARDIZATION VERSUS SUBJECTIVITY

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Abstract:

The development of the international financial market, the globalization of the financial resources and the increase of the world economic insecurity have been accompanied by the exponential rising of the corporate rating after 1980. There are three big agencies at mondial level, Moody's, Standard&Poor's and Fitch, which cover more than 94% of the international credit rating. The objective of this paper is to emphasize the conceptual and procedural similarities and differences of the mentioned agencies, with reference to the concepts and indicators used in the credit risk assessment. The main conclusions are: (1) the scales of risk assessment related to a security or entity used by the great rating agencies are approximately identical for the investment grade category, but they are different starting with the speculative grade category (2) the credit risk grade is based on a common standard list of risk factors.

Keywords: *credit risk, rating agencies, risk factors*

The activity of external assessment of credit risk has been developed in relation with the accelerate growth of the international capital mobility and the complexity of the financing structure, its necessity coming out of the informational asymetry between the capital market investors and the issuers of credit instruments. On the world market of rating there are information procedures, and this information is incorporated into formally and informally recognized grades. Rating is a term used to designate both the risk grade given to an entity and the process generating it. Credit rating assesses the quality of a credit instrument in terms of risk; it expresses the probability of the debts integral payment and at maturity and emphasizes the debtors credibility (Dittrich, 2007). To sum up, the risk grade given to a corporation, country, project or security points out two aspects: the risk to end payments and the recovery prospects.

Three major corporations, Moody's, Standard&Poor's and Fitch, owe more than 90% of the world market in respect of the external credit rating. Therefore, this paper focuses on the concepts and methodologies of the mentioned rating agencies. In order to assess risk, the rating agencies have given definitions to various concepts, methodologies and measurement scales, classified on one hand in accordance with

the time factor (long term and short term), and on the other hand, in accordance with the issue or issuer nature (typology of issuers and issuances). This scientific study offers a positive and comparative analysis of credit rating for non-financial corporations in order to emphasize both the standard elements of the rating process, and the particularities of each agency. For this purpose there have been used as main documentation sources the information available online and the rating agencies publications, and in addition, the empirical studies related to the methodological differences existing between the agencies. The work consists of three parts: the first part focuses on a short presentation of the theoretical references; the second part analyzes the rating concept, as it appears within the three corporations practice; the last part is a comparative approach of the rating methodologies, in terms of relevant indicators.

1. Theoretical references

Many theoretical studies have tried, based on the differences of the grades disseminated on the market, to identify the differences between the rating models of the agencies, knowing that these agencies do not make public the values awarded to each quantitative factor and the importance related to qualitative factors. The non-transparency in valuing these factors is motivated by the fact that the precise internal methods offer competitive advantages to the agencies and those values differ from one industry to another, from one scenario to another and they change in time. The main factors of differentiation suggested by the studies carried out during the '70s are the following: the analysts' opinions (their value judgements), the differences between the rating scales, the significance level of certain key variables, the importance of the information sources (internal or external) and the techniques of credit risk shaping. In this respect, Edernigton's study (1986) concludes that the differences between the ratings of different agencies for identical securities arise from the analysts' opinions due to the fact that they do not identify any other clarifying element such as different factors included in models or turning points applied to the probabilities of ending payments. Cantor and Packer (1996), based on the finding that all the agencies award grades to all the firms, state that the differences between ratings arise due to the differences between the rating scales and they have verified this hypothesis for Standard&Poor's and Moody's, for corporate securities, without reaching stringent conclusions regarding three of the checked variables: industry, financial factors and selective sampling (regarding certain agencies, such as Fitch, which are issuing ratings selectively, only on demand, so, only for certain entities, while the other two agencies assess all the entities). The differences between the models of the three agencies are explained by size and profit. Following the example of the insurance companies, Pottier and Sommer (1999) prove that the rating models of Standard&Poor's and Moody's are different, in the way that each of these has certain significant standard variables. The differentiation variables identified by the two authors as significant for the two models are the following: investment in ordinary equity, size, capitalization, bonus increase, profitability, and the profile with more exposure to risk of the insured parties (long-tail lines). Therefore, it is confirmed the hypothesis that the rating models

are different in terms of importance and valuation given by the agencies to different variables. Moreover, the study suggests (without absolutely demonstrating) that Moody's counts to a larger extent on private information as compared to Standard&Poor's, meaning that there are also differences in respect of the importance given to the sources of information.

The approach of this paper is different as compared to the above mentioned studies: the starting point consists in information published by the rating agencies regarding the concepts and methods and not the differences between the grades known on the market. There are shown the similarities and differences between Moody's, Standard and Poor's and Fitch by a positive and comparative analysis of the information.

1. Issuer and issue credit ratings: significance and measuring scales

Rating is a synthesis of the information related to creditworthiness of an issuer or issue. Rating has four important functions: information instrument, transaction catalyst, standardization and regulating function (Dittrich, 2007, Champsaur, 2005, Partnoy, 2002). All these functions make rating a "revolving base plate" (Sinclair, 2005) of the international capital movement. The following table briefly shows the significance of rating and the assessment scales as defined by Standard and Poor's, Moody's and Fitch.

Table 1. Rating: concept and assessment scales

Characteristics	Standard and Poor's	Moody's	Fitch
Significance of credit rating concept	Issuer credit rating: general capacity and willingness of an entity to meet the contractual payment obligations in due time; the concept does not include the consequences of the possibilities to start some bankruptcy procedures, in other words, it does not take into account the recovery prospects and the potential support of an entity (only exceptionally).	Issuer rating: "the ability of the entity to meet senior unsecured financial obligations and contracts". For long term ratings the agency considers both the probability to cease payments, and the recovery prospects. Also, ratings take into account the degree of protection of the securities.	Issuer Default Ratings (IDRs): "they are judgements on the vulnerability of financial obligations when ceasing the payments" (Fitch, 2009). In addition, IDRs refer to those financial obligations of the entity which best reflect bankruptcy, therefore, they also take into account the vulnerability when activating the mechanisms of business closure.
	Issue credit rating: reflects both the capacity and willingness to meet the financial obligations,	Issue ratings: "the capacity and legal obligation of an issuer to comply exactly with	Issue ratings: reflect both the vulnerability when ceasing payments, and the

	and the prospects of recovery in case certain mechanism of bankruptcy are activated.	the payments (principal and interest), which it has contracted in relation with a credit instrument, all along its life duration".	recovery prospects of the assessed credit instrument.
Long term rating categories (rising order of risk)	Investment: AAA, AA, A, BBB	Investment: Aaa, Aa, A, Baa	Investment: AAA, AA, A, BBB
	Speculative: BB, B, CCC (+, no sign, -), CC, R, SD, D, NR	Speculative: Ba, B, Caa, Ca, C	Speculative: BB, B, CCC, CC, C, RD, D the last two classes are not used for individual debt securities.
Short term rating categories	Investment: A-1, A-2, A-3	Investment: Prime 1, Prime 2, Prime 3	Investment: F 1, F 2, F 3
	Speculative: B-1, B-2, B-3, C, R, SD, D, NR	Speculative: Not prime	Speculative: B, C, RD/D
The scale referring to the recovery/loss instalments	The scale referring to the recovery prospects: 1 (total recovery prospects), 2 (90%-100%), 3 (70% - 90%), 4 (30% - 50%), 5 (10% - 30%) and 6 (0% - 10%)	The scale referring to loss given default (LGD): LGD1 (0%-10%), LGD2 (10%-30%) LGD3 (30%-50%), LGD4 (50%-70%) LGD5 (70%-90%) and LGD6 (90%-100%).	The scale referring to Recovery Ratings: RR1 (remarkable recovery prospects given cease of payments, 91% – 100%), RR2 (71% – 90%), RR3 (51% – 70%), RR4 (31% – 50%), RR5 (11% – 30%), RR6 (0% – 10%).
Importance of country ceiling/ sovereign risk	Sovereign risk , as risk related to state credit instruments, has the quality of ceiling for corporate credit ratings.	Country ceiling , quasi-synonym with transfer risk, is conceptually different from sovereign risk, is used as ceiling for foreign currency credit ratings. There are used two types of country ceiling: one for debt securities and another for bank deposits, lower, motivated by historical experience.	Country ceiling , referring to conversion and transfer risk, is a ceiling for foreign currency rating. Exceptionally, the rating of an entity can be better than the country risk.

Source: Standard and Poor's, 2009, Moody's, 2009 and Fitch, 2009

The above table underlines many similarities and differences between the rating agencies from conceptual point of view. In respect of the risk grade significance, it arises an essential difference between Standard&Poor's on one hand, and Moody's and Fitch on the other hand. Thus, for issuer ratings, Standard&Poor's states that it does not include into the analysis the prospects of switching out certain mechanisms representative for the bankruptcy procedure (these are considered only for issue ratings), and the other two agencies take into account these aspects. With reference to the measurement scale, all the agencies use investment and speculative categories, with an extremely similar limiting line (BBB – respectively Baa3). The investment category significance is quasi-identical, but the refinement degree of the speculative classes is different from one agency to another. It is interesting the fact that Standard&Poor's and Fitch Ratings Group use approximately the same symbols in the assessment scales realization. While the grade significance is almost the same up to B- category, the profile and content of grades start differentiating from CCC classe. Each rating category, between AAA (Aaa for Moody's) and B inclusively, consists of three subcategories, regardless the agency, differentiated by „+“ or „-“ or the numbers 1, 2, 3. In turn, classe C has four subdivisions at Standard&Poor's (CCC+, CCC, CCC-, CC), three subdivisions at Fitch (CCC, CC, C) and five subdivisions at Moody's (Caa1, Caa2, Caa3, Ca, C). D classe does not exist at Moody's and at Fitch for individual securities. Instead, Standard&Poor's has two subdivisions of this classe, both for entities and for securities, and Fitch has also two subdivisions just for the assessed entities (issuer ratings). For example, Fitch encloses the financial obligations for which payments have been closed; Standard&Poor's would place these closed payments in SD or D classe, in B classe (RR1) or C classe (for the other categories of RR) in accordance with the recovery prospects and other relevant characteristics.

All three agencies use different short term scales, standing in correlation (more powerful for investment grade and weaker for speculative grade) with the ones defined on long term. The lettering is this time different from one agency to another, and so is the refinement level. Most short term subdivisions, i.e. 11, belong to Standard&Poor's, while 7 belong to Fitch, and only 4 stages belong to Moody's. Again, Standard&Poor's and Fitch use B, C and D as common symbols, very similar in meaning. Instead, Moody's uses an easier scale, classifying securities into short term investment (prime) and speculative (not-prime).

The three rating agencies additionally use scales to measure the recovery prospects in case the payments into the account of a financial liability is declared closed. The scales are remarkably similar, in respect of number (six) and stage referring to the percentage of recovery/loss (10% for the extreme classes and 20% for the other classes). There is a slight difference, not significant in respect of content, between the agencies: Moody's measures the loss given default and the other two express the recovery prospects.

Another remarkable similarity between the agencies consists in the usage of the sovereign ceiling for the evaluation of the national entities' payment liabilities. In this case, too, there is quite an important difference between Standard&Poor's and the

other two agencies. Thus, Standard&Poor's use sovereign rating as ceiling, defined as the risk related to the governmental debt, whereas Moody's and Fitch use the so-called country ceilings. Moreover, Moody's uses different country ceilings for bank deposits, considered more exposed to the particularities of the national business environment.

Risk categories are used at mondial level to enclose and differentiate corporations or their credit instruments traded on the capital market. Our scientific work goes on with the approach of the indicators analyzed in the preparation of the ratings for non-financial corporations.

2. Rating determinants

It is a complex process the setting up of a corporation rating; it is well defined in terms of procedure, and it frames the quantitative analysis and the qualitative one, and it is based both on hystorical evidence and future evolutions, in other words, it has a powerful prospective character. The decisions related to the risk grades are based on criteria and methodologies specific to each agency but similar at the same time, the reviewed risk factors being almost identical, as it is shown in Table 2.

Table 2. Rating: key factors

STANDARD&POOR'S	MOODY'S	FITCH
1. Sovereign and country risk refer to:	1. National political environment and the regulation framework	1. Operating environment and country characteristics :
Power of the sovereign government: legislative framework, macroeconomic policies (monetary, fiscal, exchange), national and regional social-political stability, separation of state powers, application of law and corruption	Monetary policy and exchange rate: the impact of the exchange rate on profit, the exchange ratio between the cost currency and revenues currency.	focus on "underlining the risks and opportunities generated by social, demographic, regulating and technological changes at company level". The analyzed factors fluctuate in accordance with the activity sector and they include: state ownership, fiscal policy, deregulation, infrastructure quality and so on. The country risk factors are analyzed by means of their correlation with the life cycle of industry and product. At the same time, the potential consequences of the business cycle are considered.
Physical infrastructure: natural resources, communications, possibilities of legal access to available communication routes, the energetical system and access to the electrical network.	Regulation and deregulation: existing laws and law proposals established by the government which can have effect on the competitive environment, deregulation and privatization.	
Human infrastructure: labour market, education system, level of labour force training, "refinement" degree of the business community.	Guarantees and state support: guarantees/aids of any kind granted by the state to the companies as credit lines, past conduct of the state agencies, projects already notified and	
Organizing the labourers:	relevant political changes for the	

their union organization and the negotiation power, the state capacity to bear expenditures with its own employees and manage conflicts, financial status of the government.	company and industry referred to.	
Financial market: banking system, access to other financing forms, accounting system and transparency of accounting and financial reporting.		
Macroeconomic factors: consumption expenses, inflation rate, interest rate, exchange rate.	Practices of the local business environment: culture, tradition in business, the relationship distributor-offerer-client, banking system and other financing sources.	
2. Industry risks	2. Industry trend	2. Industry risks: status of industry (stable, on the decline, highly competitive, intensive in respect of capital, cyclic, volatile e.t.c), limitations in entering the market, international competition, demand and offer, price settlement, regulations representative for industry and so on. <i>Industry risk can be a ceiling for the company risk.</i>
Forecast of sales and revenues on industry categories: growing industry, mature industry, niche sector, global business or strongly dependent on cyclicity.	Global settlement of prices of raw materials	
	Cost of manufacturing factors: technologies, raw materials availability, suppliers relationships, work and social relationships.	
	Vulnerability to technological modifications: period of development and implementation of main technologies, importance of research / development, existence of licences and their life time.	
Business cycle pattern and seasonality: impact and potential reaction.	Vulnerability to economic cycles: impact on revenues.	
Barriers at entering the market: their volume and nature.	Barriers at entering the market: their volume and nature.	
The ceiling feature of industry risk: sector basic profitability, competition level, growing trend of profitability, capital intensity and its dynamics, regulations related to industry.	Local and global competition: mondial evolution of demand and offer, existence of subsidies, international competition, role of emergent markets.	

3. Specific business risks:	3. Basic operating and competitive position	3. Position on the market: place on the key markets, company size, power within the market and capacity to influence price. Also, there are considered: diversity of products, sale areas, major clients and suppliers, as well as the position of the company from point of view of costs.
Competitive position and competitive environment analysis: competitive strategy, instruments used in competition, power of suppliers and clients, existence of products to be substituted, new potential clients.	Diversification by business lines and revenue streams: weight of each division within global productivity, sensitivity „to business cycle, oversupply, fast technological change, rapid deregulation, currency exchange fluctuations, sovereign risk”.	
Regulations: their impact on the performance of the company.	Outlook for relative market share: historical evolution of the market quotation (5 – 10 years), „by line of business and by major country exposure” and brand.	
Position on the market, sales growth and prices, in interaction: market quotation, sales diversity and volatility, business stability and consistency, operational and financial diversity, assets flexibility.	Cost structure: analysis of expenditure and manufacturing factors by means of the company's capacity to keep itself on the market and manage competitions (financing agreements, financial structure, relationships with suppliers, work relationships).	
4. Management	4. Management Quality	4. Management:
Corporate governance: aggression level of the company in respect of the business model, growth, acquisition strategies, diversification, U type major changes, record of restructuring, sales of assets, suspension of work, aggression level of the company in respect of creating value for the stakeholders, managers' compensations and benefits, dependence upon one manager, managers'	Strategic direction: management's return-on-investment criteria, revenue/risk ratio, prudence, ability to manage changes, to control growth, to increase the market quotation, to protect profit margins, to identify and overpass/turn to profit the vulnerabilities and opportunities. Financing philosophy: the use of the „debt capacity for mergers, acquisitions, and capital restructuring”, commitments to stakeholders and their impact on the financial and credit policy, methodology of capital allotment.	„corporate strategy, risk tolerance, funding policies and corporate governance”. Fitch analyzes the aggression level/conservative style of management, acquisitions of companies, capital structure, record of management in terms of performance indicators, managers' capacity to build a sound and viable business, managers' human quality, their independence and

<p>reformations/departures, aggressive or non-aggressive corporate culture, litigation frequency, record of governmental actions against the company, complexity and aggression in respect of company structure, functioning, fiscality and financial structure, financial stability and liquidity, dependence of profit and capital of derived instruments and structures outside balance sheet, record of transparency and litigations related to revenues and costs, aggression, frequent changes or complexity related to the accounting system; depending on the previous indicators, management is classified as: aggressive (high risk), proactive (conformable) or reactive (passive).</p>	<p>Conservatism: correlation prudence/investment/research – development, accounting prudence, balance between long term projects and short term ones, mechanisms of bonuses for managers.</p>	<p>integrity. The agency has a peculiar methodology of assessment of the corporate governance.</p>
<p>Financial policy: accounting practices, capital structure, acquisitions of companies, frequency of assets sales.</p>	<p>Track record: record of the last five years in respect of liquidity, litigations, regulation pressures, competitive pressures, and performance indicators.</p>	<p>5. Accounting: accounting policies and technics (accounting system, assessment policies, cost methods and so on), financial statements accuracy, differences resulted from the application of certain accounting standards for different locations for rating comparison to be ensured.</p>
<p>5. Analysis of financial risk</p>	<p>Parent-subsidy relations: the relationship managerial strategies – structure and organizational policy, influence of external stakeholders (outside directors, big stakeholders, big creditors).</p>	
<p>Balance sheet: structure, complexity and leverage ratios.</p>	<p>Succession planning: dependence on the managerial person / team, managers ability to set up a team, governance succession, quality and power of the board of directors.</p>	
	<p>Control systems: existence and performance of the internal audit and financial control.</p>	<p>6. Earnings and Cash Flow: stability of returns and continuity of cash-flow resulted from major business lines, self-financing and degree of dependence on external financial resources.</p>
	<p>5. Financial position and sources of liquidity:</p> <p>The critical importance of back-up liquidity: company's capacity to generate cash, to take a loan and to change readily-marketable securities into liquidity in the situation of market turbulence and liquidity crisis.</p> <p>The relative need for back-up sources: structure of debt on maturities, payments spreading-out, interest rate variation, record of alternative financing and creditors relationships, the rating level, quality and structure of securities portfolio of the company, the operating cash</p>	

	requirements, dependence on short term debts, complexity of the treasury activities.	
Profitability: profit margins, investment lucrativeness, returns and revenues.	Evaluating the quality of back-up facilities: contractual links which ensure a certain volume of financing and their credibility.	7. Cash Flow Focus: its relationship with returns, debt coverage and financial leverage; Fitch uses many types of cash-flow, similar with the one mentioned by Standard&Poor's, underlining the fact that they give greater importance to cash-flow ratios than to capital ratios. Assets quality is important, too and the assets market value is more important than the accounting one.
	Evaluating the source: the relationships with the financing banks, the credit quality of the banks, banking practices of a country.	
Cash-flow adequacy: debt payback ratios, payment ratios, capital investment cover ratios.	Timing of funds available, on financing sources.	
	Marketable securities as alternative liquidity: quality, liquidity and maturity of credit securities, assessed by specific methodology.	
Financial liquidity and flexibility: factors which can generate the need for additional liquidity, the volume of alternative financing sources and liquidity sources.	Evaluating financing flexibility: sources of liquidity (the company capacity to generate cash and access external financing), which depend on company <i>profitability</i> (shown by various financial ratios) and its position on the market. There are examined the factors generating the need of liquidities such as the investment requisite, the inventory turnover, level and structure of debt and so on.	8. Capital structure: financial leverage, within industry peculiarity and considering the obligations outside balance sheet. If certain debts are excluded, the generated cash-flow is also excluded.
	The use of securitization in alternate liquidity planning, for improving the financial situation and increasing the adequacy of assets to liabilities.	
6. Cash-flow model and forecast: establishing the content of cash-flow concept, determining cash-flow drivers, defining the set of hypotheses for three alternative scenarios – basic, stress and closure of payments – and on industry categories – mature, global, cyclic, highly competitive or rapidly growing, niche –	6. Company structure and relationships with the parent subsidiary	
	Importance of the subsidiary to the overall entity: its contribution to revenue, to added value, to brand, operational and strategic integration level and so on.	
	Relative financial condition: potential transfer of revenues inside the group.	

establishing the time width, setting-up the model methodology, the degree of trust in the past, and the set-up of model limits.	Legal environment , because of it the parent company should be responsible for the subsidy's debts.	9. Financial flexibility: capacity to manage periods of volatility without affecting the credit quality. The factors determining financial flexibility are the following: capitalization, indebtedness level, financing bank lines, access to capital market, assets liquidity, flexibility of capital expenses.
	Joint venture partners and cooperative arrangements: advantages and costs implied.	
	Structural subordination and priority of claim , more important for speculative grade.	
	Indenture covenants: existence of clauses protecting investors against exceptional risks.	
	Parent guarantees and maintenance agreements , contract form, enforceability mechanisms and implementation conditions.	
	7. Special event risk: fusions, acquisitions, programmes of capital restructuring and so on.	

Source: Ganguin, B., and J. Bilardello, Fundamentals of Corporate Credit Analysis (2005), Standard&Poor's, Corporate Ratings Criteria (2003), Moody's Investors Service, Industrial Company Rating Methodology (1999), FitchRatings, Criteria Report (2006) and Rating European Telecoms (2008)

The description of the elements analyzed by the rating agencies in determining the risk grade of a company shows the remarkable similarities between them. Thus, all the rating agencies analyze the macroeconomic, legislative, politic and social framework, the situation of the industry where the company is operating, the management quality, including the corporate governance, the structure of the company and the bonds between its components, the competitive status and the financial risk. The quantitative indicators are the same, and the perspective appears to be dynamic and systemic. We can talk about an implicate standardization of the analyzed risk factors, in terms of their nature, fact permitting the set-up of a "standard list" of indicators. This standardization is not accompanied by certain references for these factors, the analysts' opinions remaining decisive in the determination of the final grade.

Besides the common list of indicators the last table shows several differences requiring additional empirical studies for validation. Thus, Standard and Poor's performs a thorough analysis of the country risk, stating that the analysts' experience prove the fact that bankruptcies come out of specific country risks (Ganguin and Bilardello, 2005). When analyzing the macroeconomic, political and social framework, Moody's and Fitch are more focused on the relationship between it and the assessed

company/securities. With reference to the industry risk, Standard and Poor's and Fitch expressly state that it is/can be a ceiling for the company, unlike Moody's, where the stipulation is missing. The relationships with the parent company are more detailed in the methodology described by Moody's, in comparison with the other methodologies, suggesting a greater importance given to formal and informal relations intra and inter-companies. In addition, Moody's, unlike Standard and Poor's and Fitch, put in key position the analysis of exceptional events.

3. Conclusions

Standard and Poor's, Moody's and Fitch define credit rating as a value judgement of the future capacity of a credit instrument, issuer or debtor to comply with the contractual obligations related to the debt. All rating agencies group the evaluated entities, according to their credibility, into risk classes, short term and long term, but the refinement level of the classes differ from one class to another. The assessment scale on long term is placed between AAA (best credit quality) and C or D (very weak quality or/and closure of payments). The differences between risk classes belonging to the category of speculative grade can justify the differences between the grades awarded by the rating agencies. On short term, the agencies' lettering is different, but all of them group the classes into prime (investment) and not-prime (non-investment), the simplest scale belonging to Moody's and the most refined to the agency Standard&Poor's.

With reference to the methods used by the main rating agencies, all of them have as basis a common list of indicators, a systemic perspective on the risk factors and imply a certain degree of subjectivity. All rating agencies focus on the following risk factors: sovereign and country risk, industry risks, business risks specific to the company, management quality and corporate governance, financial risks and cash-flow analysis. The quantitative indicators of the financial situation, integrated into provisional models, are the same for all the agencies, being those indicators used for the analysis of balance sheet, profitability, cash-flow adequacy, liquidity and financial flexibility. With reference to the differences between the agencies, three are suggested by this study: country risk treatment, the importance of formal and informal relationships inter and intra-firms and the treatment of the exceptional events. But there are necessary additional empirical studies in order to validate the mentioned differences.

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